

**SURREBUTTAL TESTIMONY****STEPHEN J. BARON****ON BEHALF OF****THE SOUTH CAROLINA OFFICE OF REGULATORY STAFF****DOCKET NO. 2019-224-E****DOCKET NO. 2019-225-E****IN RE: SOUTH CAROLINA ENERGY FREEDOM ACT (HOUSE BILL 3659)****PROCEEDING RELATED TO S.C. CODE ANN. SECTION 58-37-40 AND****INTEGRATED RESOURCE PLANS FOR DUKE ENERGY CAROLINAS, LLC****AND DUKE ENERGY PROGRESS, LLC****Q. STATE YOUR NAME, BUSINESS ADDRESS AND OCCUPATION.**

**A.** My name is Stephen J. Baron and I am President and a Principal of J. Kennedy and Associates, Inc. ("Kennedy and Associates"). My business address is 570 Colonial Park Drive, Suite 305, Roswell, Georgia, 30075.

**Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS PROCEEDING?**

**A.** Yes. I previously provided Direct Testimony and one (1) exhibit on behalf of the South Carolina Office of Regulatory Staff ("ORS") on February 5, 2021. My Direct Testimony was in support of portions of the ORS reports entitled, "Review of Duke Energy Carolinas, LLC 2020 Integrated Resource Plan" (the "DEC Report") and "Review of Duke Energy Progress, LLC 2020 Integrated Resource Plan" (the "DEP Report"). These are referred to jointly as the "ORS Reports" that Kennedy and Associates assisted ORS to prepare. Kennedy and Associates' review of the Duke Energy Carolinas, LLC ("DEC") and Duke Energy Progress, LLC ("DEP") (collectively "Duke Energy" or the

“Companies”) 2020 Integrated Resource Plans (the “IRPs”) included an assessment of the Companies’ compliance with the certain statutory requirements of S.C. Code Ann. Section 58-37-40, as amended by the South Carolina Energy Freedom Act.

**Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

A. I am responding to the Rebuttal Testimony of DEC and DEP (jointly referred to as “the Companies”) witnesses Nick Wintermantel and Leon Brunson regarding issues that ORS addressed in its analysis of the DEC and DEP IRPs associated with resource adequacy and load and energy forecasting.

**Q. PLEASE RESPOND TO MR. WINTERMANTEL’S REBUTTAL TESTIMONY REGARDING RESOURCE ADEQUACY ISSUES ADDRESSED IN THE ORS REPORTS.**

A. Mr. Wintermantel generally accepts the ORS recommendations regarding resource adequacy (these are ORS Recommendation Numbers 2, 3, and 4). The ORS recommendations focused on the continued development of load modeling designed to measure the effects of extreme low temperatures. The first recommendation (number 2) was to incorporate a more complete discussion of the Companies’ methodology in the IRP itself, rather than providing such information through multiple rounds of discovery. The second recommendation (number 3) was to continue improving the low temperature load modeling.

**Q. DOES MR. WINTERMANTEL DISAGREE WITH THE ORS ANALYSIS THAT MEASURED THE IMPACT OF EXTREME LOW TEMPERATURES ON LOSS OF LOAD EXPECTATIONS AND THE CORRESPONDING PLANNING RESERVE MARGINS FOR EACH COMPANY?**

1 A. No. He states at page 12 of his Rebuttal Testimony, "Astrapé does not refute the  
2 results of ORS's analysis that removing the two coldest weather years lowers the reserve  
3 margin results."

4 Q. **WHAT WAS THE PURPOSE OF THE ORS MODIFICATIONS TO EACH**  
5 **COMPANY'S LOLE ANALYSIS?**

6 A. The ORS analysis was designed to demonstrate the significant impact on the  
7 required planning reserve margin needed to satisfy an LOLE of 1 day in 10 years of extreme  
8 low temperatures and provide support for a more rigorous analysis by the Companies of  
9 the relationship between system load and extreme low temperatures. The ORS analysis,  
10 which removed just two years of extreme weather (1982, 1985) out of the entire 39-year  
11 period incorporated in the Astrapé resource adequacy study, produced significant  
12 reductions in the required reserve margin.

13 Q. **DID THE ORS REMOVE THE TWO EXTREME WEATHER YEARS FROM THE**  
14 **RESOURCE ADEQUACY ANALYSIS?**

15 A. No. Again, the purpose was to demonstrate the significance of just a couple of  
16 years of extreme low temperature history in the LOLE analysis, in support of the ORS  
17 recommendation that the relationship between extreme low temperatures and system load  
18 should be thoroughly analyzed and improved in future IRPs. The ORS does not believe  
19 that the low temperature data that was experienced in 1982 and 1985 should be removed  
20 from the resource adequacy analysis. The ORS analysis demonstrates that extreme low  
21 temperatures, which, at least historically, have had a low probability of occurring (2 out of  
22 39 years), have a significant impact on reliability when they do occur.

**Q. PLEASE RESPOND TO MR. BRUNSON'S REBUTTAL TESTIMONY REGARDING LOAD AND ENERGY FORECASTING ISSUES ADDRESSED IN THE ORS REPORTS.**

**A.** Most of Mr. Brunson's testimony addressed the direct testimony of intervenor witnesses other than the ORS. However, Mr. Brunson did respond at page 10 of his Rebuttal Testimony to ORS Recommendation Number 1, which recommended that the Companies should include a technical appendix in future IRPs that provides a more complete and detailed discussion of their load and energy forecasts. This technical appendix would also include detailed descriptions of the various models used to develop the forecasts, as well as the statistical results. Because the Companies' use variables that are themselves comprised of combinations of other independent variables, this type of technical appendix would provide the ORS and other parties in future IRP proceedings a foundation for developing further discovery as part of the IRP review process. While the Companies have provided such detailed descriptions and explanations pursuant to multiple rounds of discovery, the process would be enhanced by including a detailed technical appendix with the initial IRP filing.

**Q. DID MR. BRUNSON AGREE WITH THE ORS RECOMMENDATION TO INCLUDE A DETAILED LOAD AND ENERGY FORECAST TECHNICAL APPENDIX IN FUTURE IRP REPORTS?**

**A.** No. Mr. Brunson stated on page 10 of his Rebuttal Testimony that the Companies do not agree with the recommendation to include this information in future IRPs and would prefer to continue providing detailed information through the discovery process, not through a detailed technical appendix.

1 **Q. PLEASE EXPLAIN WHY ORS' RECOMMENDATION TO REQUIRE THE**  
2 **COMPANIES TO ADD THE LOAD AND ENERGY FORECASTING**  
3 **TECHNICAL APPENDIX TO THE COMPANIES' IRP REPORTS IS**  
4 **BENEFICIAL TO THE IRP PROCESS.**

5 **A.** The inclusion of such a technical appendix would provide the ORS and  
6 stakeholders with a foundation for efficiently conducting discovery. The ORS  
7 recommendation is not designed to supplant discovery, but rather to improve it. The  
8 technical appendix would not include the level of detail that has been provided by the  
9 Companies through discovery. Rather, it would provide a more detailed summary of the  
10 methodologies used to develop each forecast and a presentation of the statistical results for  
11 each model.

12 **Q. WILL YOU UPDATE YOUR SURREBUTTAL TESTIMONY BASED ON**  
13 **INFORMATION THAT BECOMES AVAILABLE?**

14 **A.** Yes. ORS fully reserves the right to revise its recommendations via supplemental  
15 testimony should new information not previously provided by the Company, or other  
16 sources, becomes available.

17 **Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

18 **A.** Yes.